USER'S MANUAL

BOOKSHELF

CENTER CHANNEL

SURROUND SOUND

SPEAKERS

the Speaker company

Thank you. And congratulations!

Our thanks for buying your new speakers from TSC. We sincerely appreciate your confidence in us and our products. Please read this Owner's Manual! It contains many tips on getting your new speakers set up, connected, and sounding as good as they should. We hope you find it clear, concise, and helpful.

Again, thank you.

OUT OF THE BOX

You should save the carton and the inserts your speakers came in. You may need to ship your TSC speakers in the future and the packaging is designed to protect them from damage.

WHERE SHOULD YOU PUT THEM?

We realize that the real world (family opinions, room traffic patterns, etc.) will have major impact on where you place your TSC speakers. That being said, here are some guidelines you should find useful.

For TSC bookshelf/center channel/surround speakers:

1) **Shelf mounting:** Logically, this may be your first consideration. That's fine if the shelf is sturdy enough and deep enough to hold your speakers securely. Remember that the shelf should be at least 2" deeper than the speaker itself to allow for cable connections, etc. So if your TSC speaker is 13" deep, you'll need a shelf about 15" deep to hold it safely.

   Remember that most TSC speakers are bass reflex enclosures. Some have ports on the rear panel. Because the port is very important for proper bass reproduction, please do not block it. In fact, if you're shelf-mounting your speakers and can leave 6" to 8" of open space behind the rear panel, so much the better.

2) **Stand mounting:** This is your second option and it's an attractive one for many owners. If you're placing your TSC bookshelf speakers on stands, you can use a material like Blu Tack®, a moldable, reusable adhesive compound, to keep your speakers firmly (but not permanently) attached to the stands. If you can't find Blu Tack, just ask your neighborhood hardware store for the generic equivalent.

3) **Wall mounting:** Although proper wall mounting usually requires more effort than shelf or stand mounting, it is often the most practical as it positions the speaker out of the way of pets, children, etc. Some TSC speakers are equipped with "keyhole" mounting plates – or the functional equivalent – on the rear panel. Some speakers require separate mounting brackets.

   Make sure that the brackets you select are strong enough to hold your speakers securely. (Don't worry about the brackets supplied with some TSC speakers – they're engineered with a wide safety margin.) If you decide to use another bracket, pay attention to that manufacturer's recommended weight limit. And add a "fudge factor" for safety's sake. If your speaker weighs 15 pounds, for example, look for a bracket rated for at least 20.

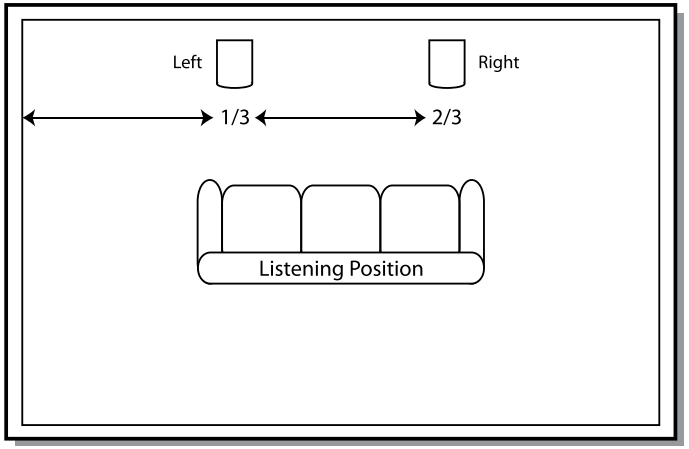
   Follow instructions carefully as you attach a bracket to a wall. Make sure it is firmly mounted. You MUST anchor brackets to the wall studs themselves – and not just to the wallboard – to insure safety. An inadvertent fall will damage your speaker as well as anything – or anyone – under it. If you're in doubt about how to do this, please call a qualified carpenter or contractor for help.

PLACING YOUR SPEAKERS PROPERLY

Main Speakers

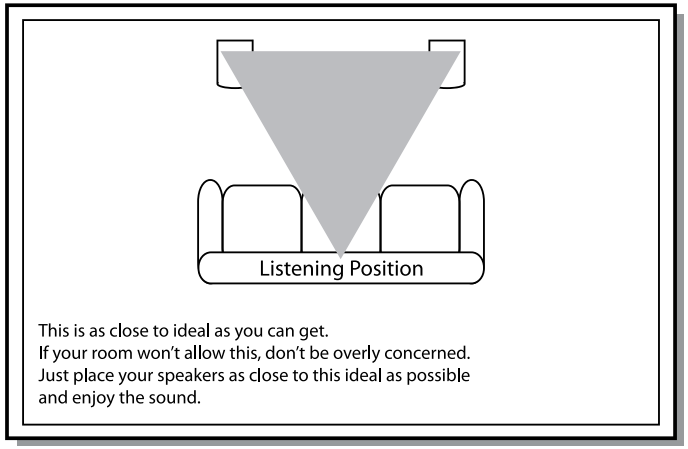
Try to put the main speakers (Left and Right for stereo, Left, Center, and Right for home theater) along the same wall of your listening/viewing room. If you can place your speakers along the long wall, so much the better.

Use the "Rule of Thirds" whenever possible. This suggests that the best placement for your Left speaker is approximately 1/3 of the way along the wall behind your speakers. Similarly, the best place for the Right speaker is usually 2/3 of the way across the same wall. Remember that the "Rule of Thirds" is a guideline only



Make sure that the speaker-to-listening/viewing position distance is the same for each speaker.

Some professionals recommend placing the main (Left and Right) speakers so that they form an equilateral triangle with the prime listening/viewing position.


Listening Position
This is as close to ideal as you can get.
If your room won't allow this, don't be overly concerned.
Just place your speakers as close to this ideal as possible
and enjoy the sound.

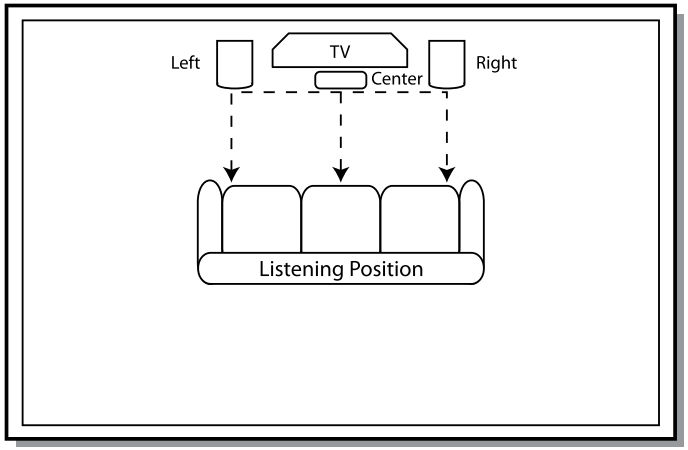
Reflections from side walls have a major impact on your sound so try not to place your main speakers close to them. Try not to place your main speakers so they're exactly the same distance from the closest side wall. A bit of asymmetry here is actually preferable.

When you take the time to properly place your Main speakers, you'll enjoy better "imaging" (the apparent placement of individual instruments or voices), and more depth.

Center Channel Speakers

For a home theater system, place the center channel speaker between your Left and Right speakers as close to your TV screen as possible. Try to keep the tweeters of all three speakers (Left, Center, and Right) as close to the same height as possible. Tweeters at – or very close to – your seated ear level are ideal. (This may pose a challenge if you have to place your Center Channel speaker either above or below your TV screen but you shouldn't worry too much.)

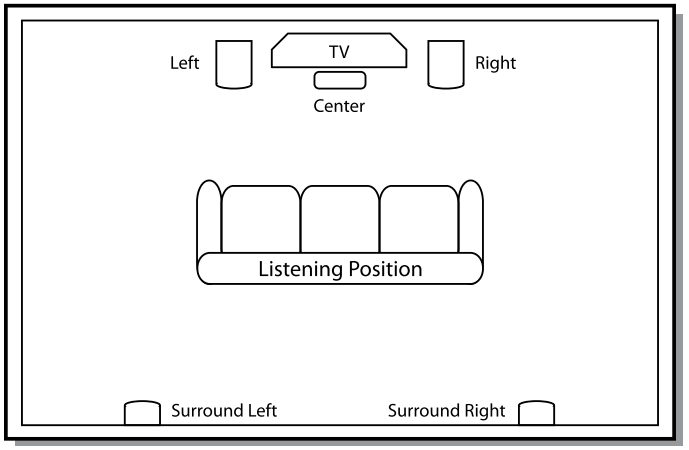
Try to place the center channel speaker at exactly the same distance from your listening/viewing position as the main Left and Right speakers. This helps create the most convincing image.



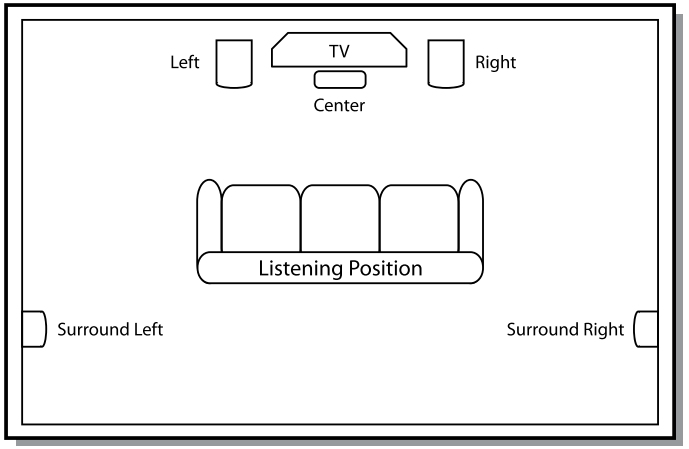
Surround Speakers

Surround speaker placement is challenging. If you're using a pair of TSC bookshelf speakers, you have two options.

If you're primarily a music listener, place them on the back wall of your listening/viewing room but a bit closer to the side walls than the "Rule of Thirds" indicates. Make sure the tweeters are at approximately the same height as are the tweeters of your front Left, Center, and Right speakers.



If you're a movie fan, mount the surround speakers on the side walls flanking your primary listening/viewing position. Make sure they're slightly behind your couch or chair and at least 1.5 to 2' above ear level.



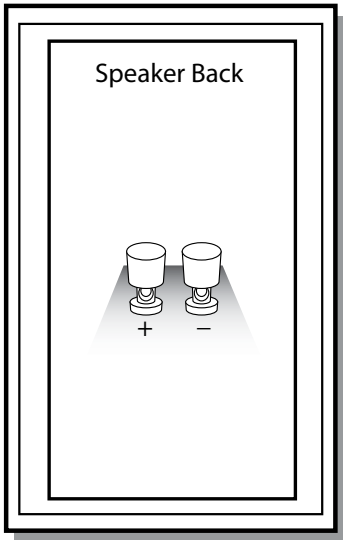
Try not to place furniture between your speakers and your listening/viewing position. Make sure you can see all your speakers when seated there.

CONNECTING YOUR SPEAKERS

Now that you've got your speaker placed properly, it's time to connect them.

Before you begin connecting your speakers, turn your system components OFF. That way, you won't run any chance of "shorting" your amplifier and possibly damaging it as you're hooking up your speakers. And, of course, turn your system back ON when you're done!

TSC speakers have two "binding posts" for connecting the speaker cable from your amplifier. One of the posts is red (positive or "+"), the other black (negative or "-"). Speaker wire, in turn, has two conductors, one for the "+" side of the signal, one for the "-".

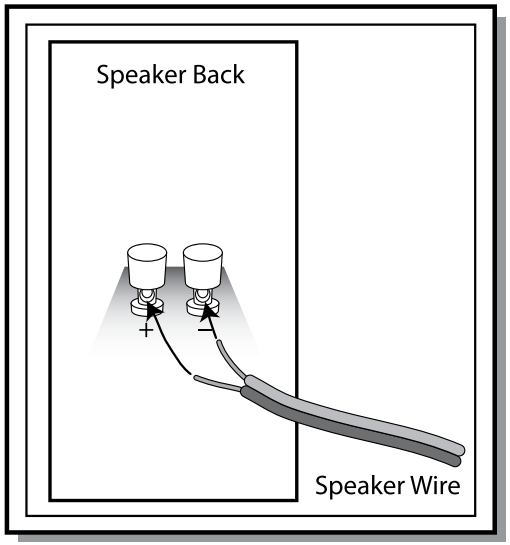


Note: Some TSC speakers include dual "bi-wire" terminals. More about them shortly.

Now look at your speaker wire. You'll see that it has two conductors separated by insulation and identified by color (if the insulation is clear) or by differences in the insulation itself (ridged vs. plain is the most common). Choose one conductor to carry the "+" signal and the other for the negative signal. It makes no difference which one you pick – just maintain that choice for all your connections.

Prepare the wire by exposing about 3/8" of each conductor by stripping the insulation with a wire stripper or sharp knife. Twist all the individual strands of each conductor together before inserting the end into the hole in the binding post. Then tighten the end cap down over the wire so that there's a firm connection.

Don't Over-Tighten!
A firm mechanical connection is obviously better than a loose one. Just don't go overboard! If you can make the speaker wire slip with just a gentle tug, tighten the connection a bit. Not too much, though. You can strip connectors by over-tightening them.



Polarity and Proper Phasing

Don't let these words scare you. They both refer to making sure you get all the sound your speakers are capable of giving you.

Here are step-by-step instructions for connecting the Left front output from your receiver or amplifier to the Left front speaker.

1) Locate the Left front speaker output on the receiver or amplifier. Note the two connectors – one marked "+" (the positive terminal – usually red) and one marked "-" (the negative terminal – usually black).
2) Connect the "+" conductor of the speaker wire to the "+" terminal on the amplifier.
3) Connect the "-" conductor of the speaker wire to the "-" terminal on the amplifier
4) At the speaker end of the same wire, connect the "+" conductor to the "+' terminal on the speaker
5) Connect the "-" conductor to the "-" speaker terminal.

Then follow steps 1 through 5 for all other amplifier-speaker connections in your system. Maintain the same pattern for all amplifier-speaker connections!

Why are we placing as much emphasis on consistency here? We want you to get all the performance you've paid for!

When your amplifier-to-speaker connections are consistent (when "+" is always connected to "+" and "-" is always connected to "-"), your speakers are connected "in phase." That means the drivers in each speaker will push out when they get a common positive signal from an amplifier and pull in when they get a negative signal.

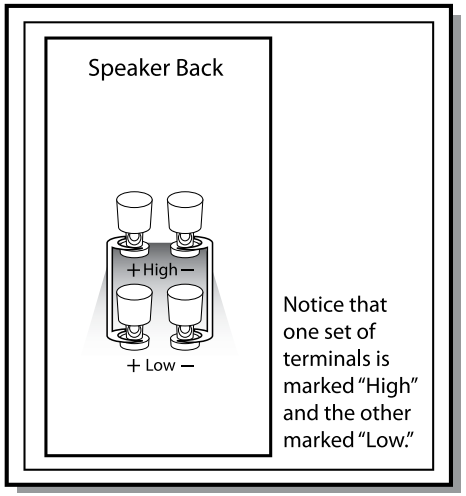
When speakers are connected "out of phase," the drivers fight each other – some move out while others move in. The result? You'll get less bass and blurred imaging. That's a pretty heavy price to pay for not taking just a few extra seconds to make sure your connections are correct.

Some Advice On Speaker Wire
Please use 16 gauge wire if your amplifier-to-speaker runs are under 50'. For longer runs, we strongly suggest 14 gauge. For your reference, standard "lamp cord" available at most hardware stores is 18 gauge. Better to use heavier wire such as 16 or 14 gauge.

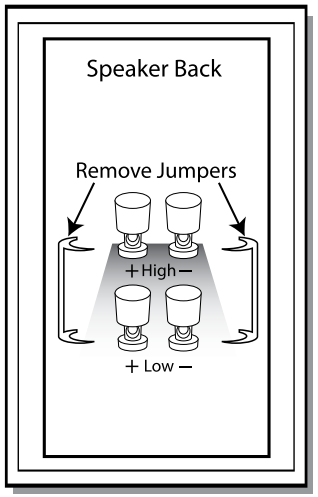
BI-WIRING

As we've already mentioned, some of our speakers are "bi-wire capable." This means the speaker system is designed to allow two runs of speaker wire from the amplifier.

The rear panel of these speakers includes two sets of connections, each with a "+" and a "-" terminal. Both "+" terminals are connected with a jumper, as are both "-" terminals.



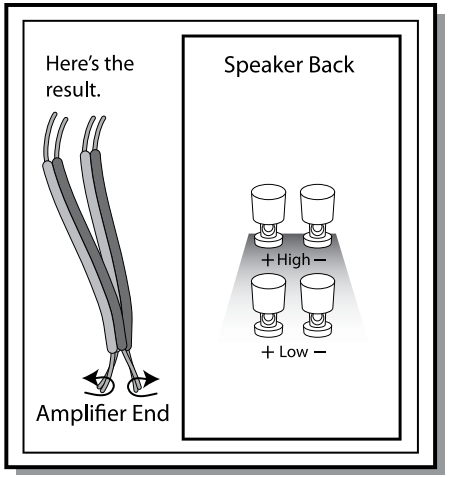
If you are using conventional speaker wire and do not wish to bi-wire, do not remove these jumpers. Simply choose one set of terminals and connect the speaker to the amplifier as previously described . You can pick either High or Low terminals. Because they're joined by the jumpers, it doesn't make a difference.



If you want to bi-wire, first remove the jumpers.

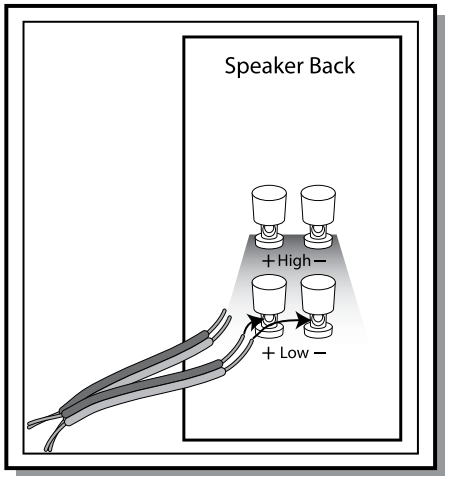
If you're making "home-brew" bi-wire cables, measure two identical lengths of dual conductor wire. At the amplifier end of each pair, strip about ¾" of insulation from each conductor. Then connect the "+" conductors together by twisting or soldering them. Do the same with the "-" conductors.

Do not do this at the speaker end!

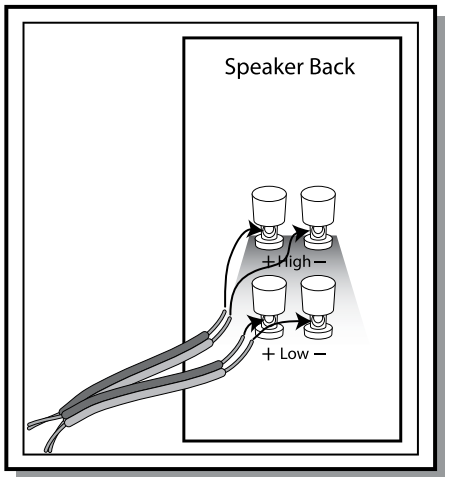


Observing proper polarity, connect both "+" conductors (now joined) to the "+" amplifier terminal. Then connect the joined "-" conductors to the amplifier's "-" terminal.

At the speaker end of each wire run, connect one length of speaker wire to the Low terminals. Remember to observe proper polarity by connecting the "+" conductor to the "+" terminal and the "-" conductor to the "-" terminal.



Now do the same thing with the other length of speaker wire but this time connect the conductors ("+" to "+" and "-" to "-," of course) to the High terminals.



Do this for both speakers.

Although you can use two separate lengths of speaker wire to make this connection, most audiophiles prefer special “bi-wire” speaker cables. This is both easier (albeit more costly) and less likely to cause phasing problems as the conductors are already joined at the amplifier end and are plainly marked at the speaker end. However, it’s your choice.

Some people believe that bi-wiring’s chief benefit is clearer sound. They posit that bi-wiring effectively separates the speaker’s internal crossover into separate filters, thus reducing the passive circuitry between the amplifier and the drivers connected to it.

BREAK-IN

Many people believe speakers improve with age.

With TSC speakers, you’ll notice a change in timbre, responsiveness, and sheer musicality as you use them because the drivers “settle in” with use.

How long should you wait? That depends, for example, on whether you listen AM radio at low volume or full orchestral music at live concert levels. In general, you’ll begin to hear differences after 20-30 hours of use.

CARE

Your TSC speakers don’t need much maintenance. Dust them occasionally. And don’t your kids try to push in the drivers, either!

Above all, enjoy! That’s what your TSC speakers were designed for and why we take such pride in bringing them to you!

tSc the Speaker company

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